The end of the Kali Yuga in 2025: Unraveling the mysteries of the Yuga Cycle

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Articles

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Part 1: Unraveling the Yuga Cycle Timeline

The Yuga Cycle doctrine tells us that we are now living in the Kali Yuga; the age of darkness, when moral virtue and mental capabilities reach their lowest point in the cycle. The Indian epic *The Mahabharata* describes the Kali Yuga as the period when the "World Soul" is Black in hue; only one quarter of virtue remains, which slowly dwindles to zero at the end of the Kali Yuga. Men turn to wickedness; disease,

lethargy, anger, natural calamities, anguish and fear of scarcity dominate. Penance, sacrifices and religious observances fall into disuse. All creatures degenerate. Change passes over all things, without exception.

The Kali Yuga (Iron Age) was preceded by three others Yugas: Satya or Krita Yuga (Golden Age), Treta Yuga (Silver Age) and the Dwapara Yuga (Bronze Age). In the *Mahabharata*, Hanuman gives the following description of the Yuga Cycle to the Pandava prince Bhima:

> "The Krita Yuga was so named because there was but one religion, and all men were saintly: therefore they were not required to perform religious ceremonies... Men neither bought nor sold; there were no poor and no rich; there was no need to labour, because all that men required was obtained by the power of will...The Krita Yuga was without disease; there was no lessening with the years; there was no hatred, or vanity, or evil thought whatsoever; no sorrow, no fear. All mankind could attain to supreme blessedness. The universal soul was White... the identification of self with the universal soul was the whole religion of the Perfect Age. In the Treta Yuga sacrifices began, and the World Soul became Red; virtue lessened a quarter. Mankind sought truth and performed religious ceremonies; they obtained what they desired by giving and by doing. In the Dwapara Yuga the aspect of the World Soul was Yellow: religion lessened one-half. The Veda was divided into four parts, and although some had knowledge of the four Vedas, others knew but three or one. Mind lessened, Truth declined, and there came desire and diseases and calamities; because of these men had to undergo penances. It was a decadent Age by reason of the prevalence of sin."[1]

And now we are living in the dark times of the Kali Yuga, when goodness and virtue has all but disappeared from the world. But when did the Kali Yuga begin? And when does it end? In spite of the elaborate theological framework which describes the characteristics of this age, the start and end dates of the Kali Yuga remain shrouded in mystery. The popularly accepted date for the beginning of the Kali Yuga is 3102 BC, thirty-five years after the conclusion of the great battle of the Mahabharata. This is remarkably close to the proposed beginning of the current "Great Cycle" of the Mayan Long Count Calendar in 3114 BC. It is of interest to note that in both of these cases the beginning dates of the respective cycles were calculated retrospectively. The Mayans had recomputed their ancient calendars sometime between 400 BC to 50 CE,

at the ceremonial center of Izapa in Mexico, and fixed the starting date of the current Great Cycle of their Long Count Calendar. And in India, sometime around 500 CE, a major review of the Indian calendric systems had taken place. It was during this time that the renowned astronomer Aryabhatta had identified the beginning date of the Kali Yuga as 3102 BC. Why was it suddenly necessary for two ancient civilizations to re-calculate dates that should have been an integral part of their calendric systems? *How did such important time-markers slip out of their collective memory?* We will revisit these questions later.

It is generally believed that Aryabhatta had calculated the start date of the Kali Yuga on the basis of the information in the Sanskrit astronomical treatise, the *Surya Siddhanta*, according to which the five "geocentric planets" (i.e. the planets visible to the naked eye) – Mercury, Venus, Mars, Jupiter and Saturn – were aligned to 0° of Aries (near the star *zeta Piscium*) at the beginning of the Kali Yuga. He, thus, arrived at the date of 17/18 February, 3102 BC as the starting point of the Kali Yuga. However, modern simulations carried out by Richard Thompson show that on 17/18 February, 3102 BC, the five geocentric planets occupied an arc of roughly 42° in the sky and were scattered over three zodiacal signs – Aries, Pisces and Aquarius. This cannot be considered as a conjunction by any means. Far more spectacular 'alignment' of planets has occurred in the preceding and succeeding centuries. In other words, the conjunction of geocentric planets at 0° of Aries that was supposedly targeted by Aryabhatta did not take place in 3102 BC.

Does this mean Aryabhatta made an error in his back calculations? Not really. For, the Surya Siddhanta does not ever specify that such an alignment of planets took place *at the beginning of the Kali Yuga*. On the contrary, the Surya Siddhanta explicitly states that this conjunction of planets at 0° of Aries takes place *at the end of the Golden Age* (Satya / Krita Yuga). The text states: "Now, at the end of the Golden Age (Krita Yuga), all the planets, by their mean motion – excepting however their nodes and apsides – are in conjunction in the first of Aries"[2] Unfortunately, however, this simple statement was misrepresented by some of the early commentators, in their eagerness to find an astronomical rationale for the 3102 BC date, and it has subsequently been promulgated as a fact.

The general understanding in ancient Hindu astronomy was that *at the beginning of the present order of things*, all the planets commenced their movement together at 0°

of Aries; and all the planets return to the same position in the heavens, at certain fixed intervals, resulting in a universal conjunction. The Surya Siddhanta states that this conjunction takes place at the end of the *Golden Age*. However, there is also a prevailing belief in Hindu astronomy that this conjunction takes place at the beginning of a Day and Night of Brahma, comprising of a 1000 Yuga Cycles.

Similar information regarding the conjunction of planets is also present in the ancient Greek texts. In the *Timaeus*, Plato refers to a "Perfect Year" which elapses at that moment when the sun, moon and the planets all return to the same relative position despite all their intervening reversals.[3] This idea was echoed by the 3rd century Roman writer Censorinus, who said that the orbits of the sun, moon and the five wandering planets complete one "Great Year of Heraclitus", when they are brought back together at the same time to the same sign where once they were.[4] This "Great Year" which is known by various other names – "Perfect Year", "Platonic Year", "Supreme Year of Aristotle" etc. – was variously represented as being of 12,954 years (Cicero) or 10,800 years (Heraclitus) duration.

There can be no doubt that the 3102 BC date for the Kali Yuga was not based on any information in the Surya Siddhanta or any other Sanskrit text. The date virtually pops out of nowhere. Before 500 CE, this date was not mentioned in any Sanskrit text. From where, then, did Aryabhatta obtain this date? There seems to be no indication that Aryabhatta had computed this date himself. There is a single, stray reference to this date in the Sanskrit text *Aryabhatiya,* where Aryabhatta mentions that the text was composed *3,600 years into the Kali Yuga, when he was 23 years old*. Since the Aryabhatiya was composed in 499 CE, the beginning of the Kali Yuga can be traced back to 3102 BC. The statement, by itself, does not reveal any information about the astronomical basis on which the date was calculated, or whether the calculation was performed by Aryabhatta himself. It is possible that this date was adopted by Aryabhatta from some other source. The vagueness surrounding the origin of this date makes its validity highly suspect.

The task of figuring out this date from the ancient Sanskrit texts, however, is fraught with difficulties, since a number of inaccuracies have crept into the Yuga Cycle information contained within them. As pointed out by Sri Yukteswar, in many Sanskrit texts the 12,000 year duration of the Yuga Cycle was artificially inflated to an abnormally high value of 4,320,000 years by introducing a multiplication factor of "360", which was represented as the number of "human years" which constitutes a

"divine year". However, certain texts, such as the *Mahabharata* and the *Laws of Manu*, still retain the original value of the Yuga Cycle as 12,000 years. Many other ancient cultures – the Chaldeans, Zoroastrians and Greeks – also believed in a 12,000 year Cycle of the Ages. The renowned Sanskrit scholar and nationalist leader of India, B.G.Tilak had mentioned in his book, *The Arctic Home in the Vedas* (1903), that:

> "The writers of the Puranas, many of which appear to have been written during the first few centuries of the Christian, era, were naturally unwilling to believe that the Kali Yuga had passed away...An attempt was, therefore, made to extend the duration of the Kali Yuga by converting 1000 (or 1200) ordinary human years thereof into as many divine years, a single divine year, or a year of the gods, being equal to 360 human years...this solution of the difficulty was universally adopted, and a Kali of 1200 ordinary years was at once changed, by this ingenious artifice, into a magnificent cycle of as many divine, or 360 × 1200 = 432,000 ordinary years."[5]

Yukteswar also clarified in the book *The Holy Science (1894),* that a complete Yuga Cycle takes 24,000 years, and is comprised of an ascending cycle of 12,000 years when virtue gradually increases and a descending cycle of another 12,000 years, in which virtue gradually decreases. Hence, after we complete a 12,000 year descending cycle from Satya Yuga -> Kali Yuga, the sequence reverses itself, and an ascending cycle of 12,000 years begins which goes from Kali Yuga -> Satya Yuga. Yukteswar states that, "Each of these periods of 12,000 years brings a complete change, both externally in the material world, and internally in the intellectual or electric world, and is called one of the Daiva Yugas or Electric Couple."[6] The 24,000 year duration of the complete Yuga Cycle closely approximates the Precessional Year of 25,765 years, which is the time taken by the sun to "precess" i.e. move backwards, through the 12 zodiac constellations. Interestingly, the *Surya Siddhanta* specifies a value of 54 arc seconds per year for precession, as against the current value of 50.29 arc seconds per year. This translates into a Precessional Year of exactly 24,000 years! This raises the possibility that the current observed value of precession may simply be a temporary deviation from the mean.

The concept of an ascending and descending cycle of Yugas is not a proposition that Yukteswar conjured out of thin air. This idea is still prevalent among the Jains of India, who are one of the oldest religious sects of the country. The Jains believe that a complete Time Cycle (Kalachakra) has a progressive and a regressive half. During the

progressive half of the cycle (Utsarpini), there is a gradual increase in knowledge, happiness, health, ethics, and spirituality, while during the regressive half of the cycle (Avasarpini) there is a gradual reduction in these qualities. Each half cycle is comprised of six smaller periods, and together these two half cycles constitute a complete Time Cycle. These two half cycles follow each other in an unbroken succession for eternity, just like the cycles of day and night or the waxing and waning of the moon. It is possible that Yukteswar may have been influenced by the belief system of the ancient Jains; or he may have based his ideas on ancient oral traditions that are not a part of the mainstream documented knowledge.

The idea of an ascending and descending Cycle of Ages was also prevalent in Greek myths. The Greek poet Hesiod (c. 750 BC – 650 BC) had given an account of the World Ages in the *Works and Days*, in which he had inserted a fifth age called the "Age of Heroes", between the Bronze Age and the Iron Age. In *Hesiod's Cosmos*, Jenny Strauss Clay writes:

> "Drawing on the myth in Plato's *Statesman*, Vernant also claimed that the temporal framework of Hesiodic myth, that is, the succession of races, is not linear but cyclical; at the end of the age of iron, which he divides into two, the cycle of races starts again with a new golden age or, more likely, a new age of heroes, as the sequence reverses itself...Vernant himself offers a solution when he remarks that 'there is not in reality one age of iron but two types of human existence.' "[7]

This is highly interesting. Jean-Pierre Vernant, who is a highly acclaimed specialist in ancient Greek culture, clearly believes that the Cycle of the Ages reverses itself as per Hesiod's account. Not only that, he states that the Iron Age has two parts, which corresponds exactly to Yukteswar's interpretation in which the descending Kali Yuga is followed by the ascending Kali Yuga. We can surmise, in this context, that the "Age of Heroes", which immediately followed the Bronze Age in Hesiod's account, must be the name ascribed by Hesiod to the *descending Kali Yuga*.

The evidence from different sources supports the notion of a complete Yuga Cycle of 24,000 years, comprised of an ascending and descending cycle of 12,000 years each. This brings us to the question of the relative durations of the different Yugas in the Yuga Cycle, and the transitional periods, which occur at the beginning and end of each Yuga, and are known as *Sandhya* (dawn) and *Sandhyansa* (twilight) respectively. The

following values are provided in the Sanskrit texts for the duration of the Yugas and their respective dawns and twilights.

- **Satya Yuga (Golden Age)**: 4000 years + 400 years dawn + 400 years twilight = **4800 years**
- **Treta Yuga (Silver Age):** 3000 years + 300 years dawn + 300 years twilight = **3600 years**
- **Dwapara Yuga (Bronze Age)**: 2000 years + 200 years dawn + 200 years twilight = **2400 years**
- **Kali Yuga (Iron Age)**: 1000 years + 100 years dawn + 100 years twilight = **1200 years**

Since so many inaccuracies have crept into the Yuga Cycle doctrine, as pointed out by Yukteswar and Tilak, we also need to question the accuracy of the relative durations of the Yugas mentioned in the Sanskrit texts. Although the Yuga Cycle is mentioned in the mythic accounts of around thirty ancient cultures, as described by Giorgio de Santillana, professor of the history of science at MIT, in the book *Hamlet's Mill* (1969), we find very little information regarding the relative durations of the different ages within this cycle. This is quite surprising. Nearly all the accounts tell us that virtue and righteousness decreases as we move from the Golden Age to the subsequent ages. Some of them specifically mention that virtue decreases *by a quarter* in every age. However, there appears to be scant mention of the durations of the ages themselves. *If the duration of each Yuga decreased from one Yuga to the next, shouldn't this important point also have been mentioned in these accounts?*

In the few accounts where the durations of the Yuga are specified, we find that each age in the Yuga Cycle is of the same duration. For instance, the Zoroastrians believe that the world lasts for 12,000 years, which is divided into four equal ages of 3,000 years each. A Mexican source known as the *Codex Rios* (also referred to as Codex 3738 and Codex Vaticanus A) states that each age lasts for 4008, 4010, 4801 and 5042 years respectively for a total of 17,861 years. We can see that in this case also the duration of each age is nearly the same.

Therefore, the durations of the four Yugas mentioned in the Sanskrit texts (i.e. 4800, 3600, 2400, and 1200 years) deviate from the norm. The duration of each Yuga, in this sequence, decreases by 1200 years from the previous one. This is an *arithmetic*

progression which is rarely, if ever, found in natural cycles. This seemingly unnatural sequence raises the question whether the Yuga durations were deliberately altered at some point in the past, *in order to give the impression that the duration of each Yuga decreases in tandem with the decrease in virtue from one Yuga to the next*. It is important to note that the ratio's of the durations of the four Yugas in this sequence is 4:3:2:1. This gives the superficial impression that the duration of each Yuga is reducing by a quarter from one to the next. But that is actually not the case. They are decreasing by a fixed number of years i.e. 1200 years.

Here is the most startling fact: Two of the most famous astronomers of ancient India, Aryabhatta and Paulisa, both believed that *the Yuga Cycle is comprised of Yugas of equal duration*! In the 11th century, the medieval scholar Al-Beruni had travelled across India for 13 years, questioning and conversing with learned men, reading the Sanskrit texts, observing the religious rites and customs, and had compiled a comprehensive commentary on Indian philosophy, sciences and culture. In *Alberuni's India,* Al-Beruni mentions that the Yuga Cycle doctrine was based on the derivations of the Indian astronomer Brahmagupta, who in turn derived his knowledge from the Sanskrit *Smriti texts*. He makes an interesting statement in this regard:

> "Further, Brahmagupta says that "Aryabhatta considers the four yugas as the four equal parts of the *caturyuga (Yuga Cycle).* Thus he differs from the doctrine of the book *Smriti*, just mentioned, and he who differs from us is an opponent".[8]

The fact that Aryabhatta believed the four *yugas* to be of equal duration is extremely pertinent! Al-Beruni reasserts this in no uncertain terms: "Therefore, according to Aryabhatta, the Kali Yuga has 3000 divya years....each two yugas has 6000 divya years...each three years has 9000 divya years." Why would Aryabhatta subscribe to such a belief? Did he have access to sources of information that are lost to us now?

Surprisingly, it was not only Aryabhatta, who held this point of view. Another celebrated astronomer of ancient India was Paulisa, who had apparently earned Brahmagupta's favor by supporting the 4:3:2:1 ratio for the duration of the yugas. According to Al-Beruni, however, "it is possible that Paulisa simply mentions this method as one among others, and that it is not that one in particular which he himself adopted."[9] This is evident from Paulisa's belief regarding the caturyuga, as documented by Al-Beruni: "Of the current *caturyuga* (Yuga Cycle), there have elapsed

three *yugas* i.e. according to him 3,240,000 years i.e. 9000 divya-years. The latter number represents three-fourths of the years of a *caturyuga*."[10] This indicates that Paulisa believed that each Yuga was of 3000 divine years' duration. He uses the same method while presenting his calculations for the duration of a kalpa where "he (Pulisa) has not changed the *caturyugas* into exact *yugas,* but simply changed them into fourth parts, and multiplied these fourth parts by the number of years of a single fourth part."[11]

This clearly indicates that two of the most respected astronomers of ancient India, Aryabhatta and Paulisa, believed in a Yuga Cycle that comprised of 4 Yugas of equal duration of 3,000 divine-years each. However, their opinion was overshadowed by the contradictory view held by Brahmagupta. He railed against Aryabhatta and the other astronomers who held differing opinions, and even abused them. Al-Beruni says about Brahmagupta:

> "He is rude enough to compare Aryabhatta to a worm which, eating the wood, by chance describes certain characters in it without understanding them and without intending to draw them. "He, however, who knows these things thoroughly, stands opposed to Aryabhatta, Srishena, and Vishnucandra like the lion against gazelles. They are not capable of letting him see their faces. " In such offensive terms he attacks Aryabhatta and maltreats him."[12]

We can now understand why Brahmagupta's opinion finally prevailed over that of the other astronomers of his time, and it certainly did not have anything to do with the inherent soundness of his logic, or the authenticity of his sources.

It is time for us to stop standing in opposition to Aryabhatta, Paulisa, Srishena, Vishnucandra and others like the "lion against gazelles", and instead take cognizance of the very real possibility that the Yugas in the Yuga Cycle are of equal duration, and the 4:3:2:1 sequence of the Yugas may have been a mathematical manipulation that crept into the Yuga Cycle doctrine sometime prior to 500 CE. It is possible that this manipulation was introduced because people were inclined to believe that the duration of a Yuga should decrease in tandem with the decrease in virtue and human longetivity from one Yuga to the next. A neat formula was devised in which the total duration of the Yugas added up to 12,000 years. However, there was one problem. If the Kali Yuga is of 1,200 years duration, then it should have been completed many times over, since its proposed beginning in 3102 BC. In order to circumvent this

potentially embarrassing situation, another complexity was introduced. Each "year" of the Yuga Cycle became a "divine year" comprised of 360 human years. The Yuga Cycle became inflated to 4,320,000 years (12,000*360) and the Kali Yuga became equal to 432,000 years (1,200*360). Humanity became consigned to an interminable duration of darkness.

The original Yuga Cycle doctrine appears to have been very simple: *A Yuga Cycle duration of 12,000 years, with each Yuga lasting for 3,000 years.* This cycle is encoded in the "Saptarsi Calendar" which has been used in India for thousands of years. It was used extensively during the Maurya period in the 4th century BC, and is still in use in some parts of India. The term "Saptarsi" refers to the "Seven Rishis" or the "Seven Sages" representing the seven stars of the Great Bear constellation (Ursa Major). They are regarded as the enlightened rishis who appear at the beginning of every Yuga to spread the laws of civilization. The Saptarsi Calendar used in India had a cycle of 2,700 years; it is said that the Great Bear constellation stays for 100 years in each of the 27 "Nakshatras" (lunar asterisms) which adds up to a cycle of 2,700 years.[13] The 2,700 year cycle was also referred to as a "Saptarsi Era" or a "Saptarsi Yuga".

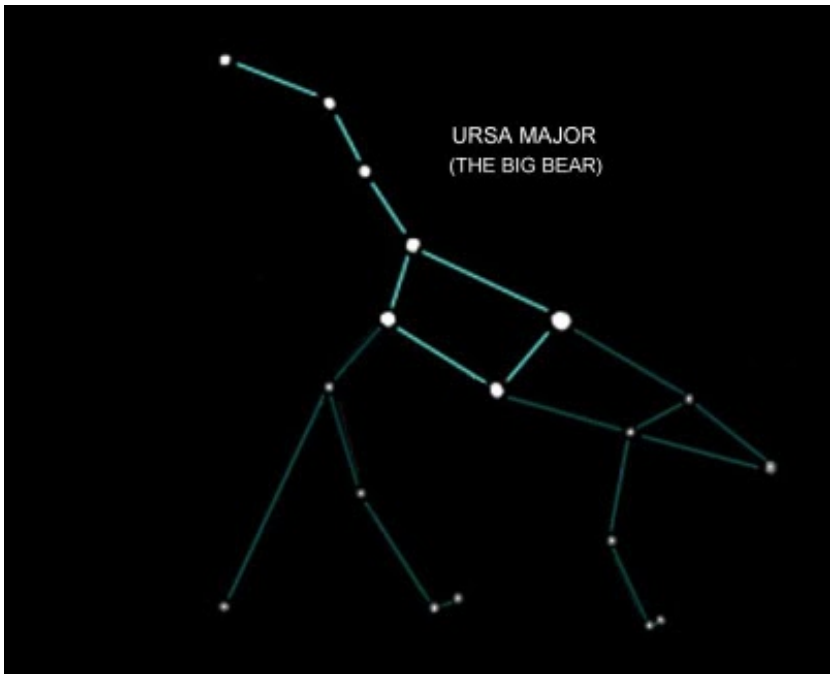


Fig 1: The Great Bear constellation (Ursa Major) is clearly visible in the northern sky throughout the year. The seven prominent stars represent the Seven Sages (Saptarshi). The Great Bear constellation figures prominently in the mythology of many cultures.

If the 2,700 year cycle of the Saptarsi Calendar represents the actual duration of a Yuga, then the remaining 300 years out of the total Yuga duration of 3,000 years

(representing 1/10th of the Yuga duration), automatically represents the "transitional period", before the qualities of the subsequent Yuga are fully manifested. In accordance with the current convention, this intervening period can be broken up into two separate periods of 150 years each, one occurring at the beginning of the Yuga, known as *Sandhya* (i.e. dawn), and the other at its termination, known as *Sandhyansa* (i.e. twilight). The total duration of the Yuga Cycle, *excluding the transitional periods*, is equal to (2700*4) i.e. 10,800 years, which is same as the duration of the "Great Year of Heraclitus" in the Hellenic tradition!

It is agreed by historians that the Saptarsi Calendar that was in use during the Maurya period in the 4th century BC, started in 6676 BC. In the book, "*Traditions of the Seven Rsis*", Dr.J.E. Mitchiner confirms this: "We may conclude that the older and original version of the Era of the Seven Rsis commenced with the Seven Rsis in Krttika in 6676 BC...This version was in use in northern India from at least the 4th century BC, as witnessed by the statements of Greek and Roman writers; it was also the version used by Vrddha Garga, at around the start of the Christian era."[14]

In fact, the recorded choronology of Indian kings goes back further than 6676 BC as documented by the Greek and Roman historians Pliny and Arrian. Pliny states that, "From Father Liber [Roman Bacchus or Greek Dionysus] to Alexander the Great (d. 323 BC), Indians reckon 154 kings, and they reckon (the time as) 6451 years and 3 months."[15] Arrian puts 153 kings and 6462 years between Dionysus and Sandrokottos (Chandragupta Maurya), to whose court a Greek embassy was sent in 314 BC.[16] Both indications add up to a date of roughly c.6776 BC, which is a 100 years prior to the beginning of the Saptarsi Calendar in 6676 BC.

It is obvious from the accounts of Pliny and Arrian that they must have identified a *specific king* in the Indian kings list, who corresponded to the Greek Dionysus or Roman Bacchus, and whose reign had ended at around c.6776 BC. Who could that have been? According to the renowned scholar and Orientalist Sir William Jones, Dionysus or Bacchus was none other than the Indian monarch Rama. In his essay "*On the Gods of Greece, Italy and India*" (1784), Sir William Jones "deems Rama to be the same as the Grecian Dionysos, who is said to have conquered India with an army of satyrs, commanded by Pan; and Rama was also a mighty conqueror, and had an army of large monkeys or satyrs, commanded by Maruty (Hanuman), son of Pavan. Rama is also found, in other points, to resemble the Indian Bacchus."[17] Sir William Jones also

points out that, "*Meros* is said by the Greeks to have been a mountain of India, on which their Dionysus was born, and that *Meru* is also a mountain near the city of Naishada, or Nysa, called by the Grecian geographers Dionysopolis, and universally celebrated in the Sanskrit poems."[18]

Both Pliny and Arrian were aware of these associations. Pliny had placed the Dionysian satyrs "in the tropical mountains of India", while "we learn from Arrian (Hist.Ind. p 318, 321) that the worship of Bacchus, or Dionysus, was common in India and that his votaries observed a number of rites similar to those of Greece...On this account, when Alexander entered India, the natives considered the Greeks as belonging to the same family with themselves; and when the people of Nysa sent the principal person of their city to solicit their freedom of the Grecian conqueror, they conjured him by the well-known name of Dionysus, as the most effectual means of obtaining their purpose. 'O King, the Nyssaeans entreat thee to allow them to enjoy their liberties and their laws, out of respect to Dionysus .'"[19]

The identification of Dionysus with Rama provides us with fresh perspectives. According to the Indian tradition, Rama had lived towards the end of the Treta Yuga (Silver Age), and the Dwapara Yuga (Bronze Age) had started soon after his demise. This implies that the 6676 BC date for the beginning of the Saptarsi Calendar, which is a 100 years after Dionysus i.e. Rama, indicates the beginning of the Dwapara Yuga in the descending cycle.

A later Saptarsi Calendar, still in use in India, began from 3076 BC. But, as Dr. Subhash Kak points out, "the new count that goes back to 3076 BC was started later to make it as close to the start of the Kali era as possible"[20]. This modification can be easily identified, since in 3076 BC, the Great Bear were in the "Magha" nakshatra (lunar asterism) as mentioned by Varahamihira in *Brihat-Samhita* (Brs. 13-3). But Subhash Kak points out that, "By the time of the Greeks, the naksatras were listed starting with Asvin (*Surya Siddhanta* 8.9). As Magha is the tenth naksatra in a count beginning with Asvin, one needs to add 900 years to find the epoch for the beginning of the cycle. This takes one to 3976 BC. One more complete Saptarsi Cycle of 2,700 years before that brings us to 6676 BC."[21] Since the Dwapara Yuga immediately precedes the Kali Yuga, we are once again led to the conclusion that the Saptarsi Calendar with a start date of 6676 BC was counting time from the Dwapara Yuga.

* 3976 BC, 6676 BC	* 3076 BC
Ashvinī *, Bharanī, Kŕttikā, Rohinī, Mrigashīra, Ārdrā, Punarvasu, Pushya, Āshleshā, Maghā *, Pūrva Phalgunī, Uttara Phalgunī, Hasta, Chitrā, Svātī, Vishākhā, Anurādhā, Jyeshtha, Mūla, Pūrva Ashādhā, Uttara Ashādhā, Shravana, Dhanistha, Shatabhisha, Pūrva Bhādrapadā, Uttara Bhādrapadā, Revatī	

Fig 2: The List of the 27 Nakshatras. The Great Bear was in Magha in 3076 BC and in Ashvini in 3976 BC / 6676 BC

We also know that the Saptarsi Calendar used during the Mauryan period was used for tracking the genealogical records of the Mahabharata war kings. Since the Mahabharata describes events that transpired in the Dwapara Yuga, there cannot be any doubt that the Saptarsi Cycle beginning 6676 BC marks the beginning of the descending Dwapara Yuga. If we use this date as the anchor point, and the Saptarsi Calendar as the basis for the Yuga Cycle durations (i.e. Yuga duration of 2,700 years, with transitional periods of 300 years), then the entire timeline of the Yuga Cycle gets unraveled:

Yuga	Begins	Ends	Duration
Descending Satya Yuga (Golden Age)	12676 BC	9976 BC	2700 years
Transitional Period	9976 BC	9676 BC	300 years
Descending Treta Yuga (Silver Age)	9676 BC	6976 BC	2700 years
Transitional Period	6976 BC	6676 BC	300 years
Descending Dwapara Yuga (Bronze Age)	**6676 BC**	3976 BC	2700 years
Transitional Period	3976 BC	3676 BC	300 years
Descending Kali Yuga (Iron Age)	3676 BC	976 BC	2700 years
Transitional Period	976 BC	676 BC	300 years
Ascending Kali Yuga (Iron Age)	676 BC	**2025 CE**	2700 years
Transitional Period	2025 CE	2325 CE	300 years

Fig 3: Yuga Cycle Timeline.

This Yuga Cycle timeline takes the beginning of the Golden Age to 12676 BC, more than 14,500 years before present, when the Great Bear was in the "Shravana" nakshatra (the Great Bear will advance by 3 nakshtras in every Yuga because of the 300 year transitional period). This agrees very well with the Indian tradition, since the *Mahabharata* mentions that in the ancient tradition the Shravana nakshatra was given the first place in the Nakshatra cycle. The timeline also indicates that the

ascending Kali Yuga, which is the current epoch in which we are living, will end in 2025 CE. The full manifestation of the next Yuga – the ascending Dwapara – will take place in 2325 CE, after a transitional period of 300 years. The ascending Dwapara Yuga will then be followed by two more Yugas: the ascending Treta Yuga and the ascending Satya Yuga, which will complete the 12,000 year ascending cycle. The Sanskrit text *Brahma-vaivarta Purana* describes a dialogue between Lord Krishna and the Goddess Ganges. Here, Krishna says that after 5,000 years of Kali Yuga there will be a dawn of a new Golden Age which will last for 10,000 years (Text 50, 59). This can be immediately understood in the context of the Yuga Cycle timeline described here. We are now ending the Kali Yuga, nearly 5,700 years since its beginning in 3676 BC. And the end of the Kali Yuga will be followed by three more Yugas spanning 9,000 years, before the ascending cycle ends.

Part 2: The archaeological and historical evidence

According to the Yuga Cycle doctrine, the transitional periods between Yugas are *always* associated with a worldwide collapse of civilizations and severe environmental catastrophes, which wipe out virtually every trace of any human civilization. The new civilization that emerges in the new Yuga is guided by a few survivors of the cataclysm, who carry with them the technical and spiritual knowledge of the previous epoch. Many ancient sources tell us of the enigmatic group of "Seven Sages" ("Saptarsi") who are said to appear at the beginning of every Yuga and promulgate the arts of civilization. We find them in myths from across the world – in Sumeria, India, Polynesia, South America and North America. They possessed infinite wisdom and power, could travel over land and water, and took on various forms at will. Were they the survivors of the previous Yuga or visitors from outer space? Opinions differ on this point, but surely neither option can be discarded without proper scrutiny. In any case, the main point is that the transitional periods between Yugas must necessarily correlate with the severe cataclysmic events that regularly impact our planet, as reflected in the archeological records. As we shall see, the Yuga Cycle timeline proposed here correlates with these catastrophic events with a stunning accuracy. In addition, the transitional periods can also be correlated with dates recorded in various ancient calendars and traditions.

The first transitional period in the 12,000 year descending Yuga Cycle is the 300 year period at the end of the Golden Age from 9976 BC – 9676 BC. This is the time when

the last Ice Age came to a sudden end; the climate became very warm quite abruptly, and several large mammalian species such as the woolly mammoth became extinct. A number of scientific studies show that a devastating global flood occurred at around 9600 BC.[22] This is in accordance with many ancient traditions and legends. In the *Timaeus,* Plato talks of the mythical island of Atlantis, which was swallowed up by the sea in a "single day and night of misfortune" in c.9600 BC. This event has also been recorded in the flood myths of many ancient cultures, which almost uniformly talk of enormous walls of water that submerged the entire land to the highest mountain tops, accompanied by heavy rain, fireballs from the sky, intense cold and long periods of darkness. In the Indian tradition, this flood took place at the end of the Satya Yuga (Golden Age). The survivor of this great deluge was Manu, the progenitor of mankind, who is placed at the head of the genealogy of Indian kings.

What could have led to this sudden worldwide deluge? Archaeologist Bruce Masse of the Los Alamos National Laboratory in New Mexico had examined a sample of 175 flood myths from different cultures around the world and concluded that the environmental aspects described in these events, which is also consistent with the archaeological and geophysical data, could have only been precipitated by a destructive, deep-water, oceanic comet impact.[23] In 2008, a team of Danish geologists from the Niels Bohr Institute (NBI) in Copenhagen studied the ice core data from Greenland, and concluded that the ice age ended exactly in 9703 BC. Researcher Jorgen Peder Steffensen said that, "in the transition from the ice age to our current warm, interglacial period the climate shift is so sudden that it is as if a button was pressed"[24]. More recently, in 2012, an international team of scientists concluded that the earth was bombarded by a meteorite storm nearly 12,000 years ago, which effectively ended the ice age, and led to the end of a prehistoric civilization and the extinction of many animal species.[25] It is interesting to note that the 9703 BC date for the sudden climate shift falls within the 300 year transitional period at the end of the Golden Age from 9976 BC – 9676 BC, and as such, it provides the first important validation of the Yuga Cycle timeline identified here.

The 300 year transitional period between the Treta Yuga (Silver Age) and the Dwapara Yuga (Bronze Age) from 6976 BC – 6676 BC also coincides with a significant environmental event – the *Black Sea Catastrophe* which has recently been dated to 6700 BC. The Black Sea once used to be a freshwater lake. That is, until the Mediterranean Sea, swollen with melted glacial waters, breached a natural dam, and

cut through the narrow Bosphorous Strait, catastrophically flooding the Black Sea. This raised the water levels of the Black Sea by several hundred feet, flooded more than 60,000 square miles of land, and significantly expanded the Black Sea shoreline (by around 30%).[26] This event fundamentally changed the course of civilization in Southeastern Europe and western Anatolia. Geologists Bill Ryan and Walter Pitman of Lamont-Doherty Earth Observatory in New York, who had first proposed the Black Sea Catastrophe hypothesis, have gone to the extent of comparing it to *Noah's Flood*.

Similar major flooding events were taking place in many parts of the world, as massive glacial lakes, swelled by the waters of the melting ice, breached their ice barriers, and rushed into the surrounding areas. In the book *Underworld*, Graham Hancock has described some of the terrible events that ravaged the planet during that time. Sometime between 6900 BC – 6200 BC the Laurentide ice-sheet disintegrated in the Hudson Bay and an enormous quantity of glacial waters from the inland Lake Agassiz/Ojibway discharged into the Labrador Sea. This was possibly the "single largest flood of the Quarternary Period", which may have single-handedly raised global sea-level by half a metre.[27] The period between 7000 BC – 6000 BC was also characterized by the occurrences of gigantic earthquakes in Europe. In northern Sweden, some of these earthquakes caused "waves on the ground", 10 metres high, referred to as "rock tsunamis". It is possible that the global chain of cataclysmic events during this transitional period may have been triggered by a single underlying cause, which we are yet to find out.

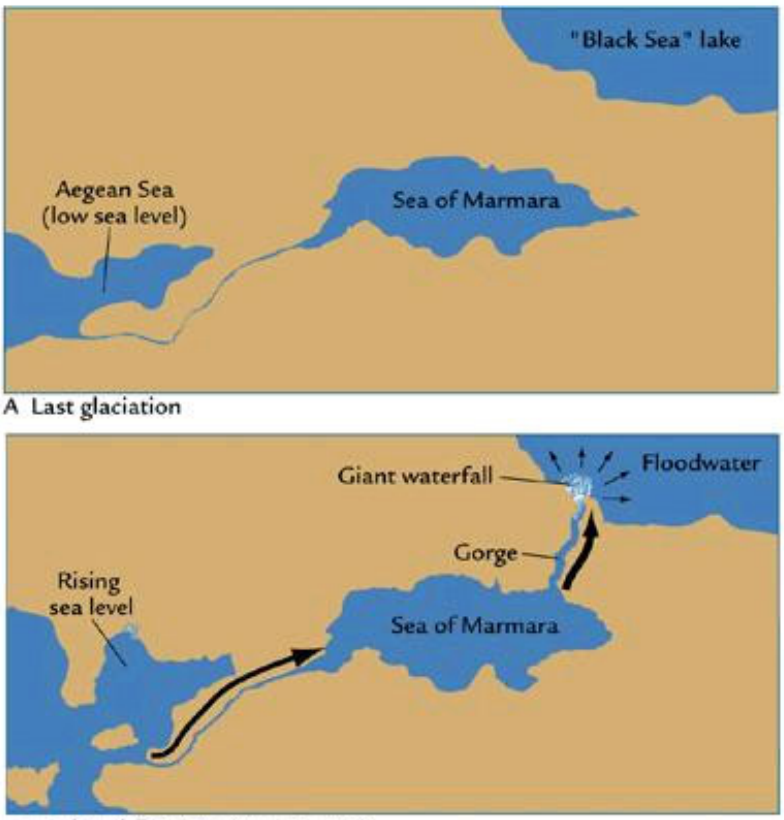


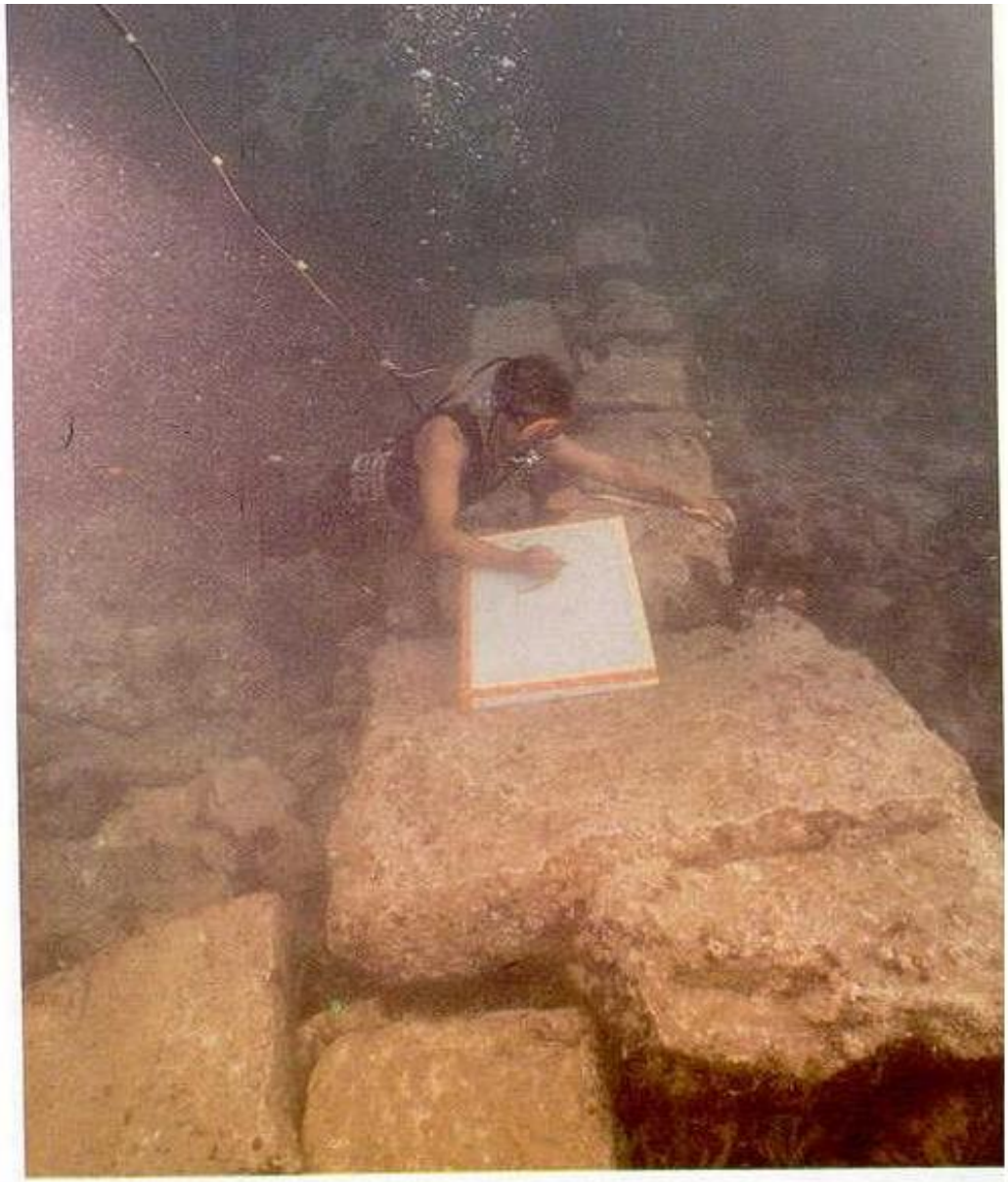
Fig 5: The Black Sea catastrophe, before and after. The water from the Mediterranean (Aegean) Sea, cut through a narrow Gorge (now known as the Bosphorous Strait), and plunged into the Black Sea (whose water level was 80 m below sea level) creating a gigantic waterfall. Every day for two years, 42 cubic km of sea water cut through the narrow channel and plunged into the lake — more than 200 times the flow over Niagara Falls. Source: NASA

The transitional period between the Dwapara Yuga and Kali Yuga, from 3976 BC – 3676 BC was again marked by a series of environmental cataclysms, whose exact nature remains a mystery. It is referred to in geology as the *5.9 kiloyear event*, and it is considered as one of the most intense aridification events during the Holocene period. It occurred around 3900 BC, ending the Neolithic Subpluvial and initiated the most recent desiccation of the Sahara desert. At the same time, between 4000 BC – 3500 BC, the coastal plains of Sumer experienced severe flooding, which "was the local effect of a worldwide episode of rapid, relatively short-term flooding known as the Flandrian transgression – which had a significant impact not only along the shores of the Gulf but in many other parts of Asia as well."[28] This catastrophic flooding event led to the end of the Ubaid period in Mesopotemia, and triggered a worldwide migration to river valleys.

This transitional period between the Yugas is recorded in many ancient calendars, as we find a clustering of important dates around this epoch. For a very long time, there

was a prevalent belief in the western world that the world was created in 4004 BC. This date comes to us from the genealogies of the *Old Testament*. This date is just 28 years prior to the end of the Dwapara and the beginning of the transitional period. A Saptarsi Calendar, still in use in India, counted time in the Kali Yuga starting from 3976 BC, which coincides with the beginning of the transitional period. The year of world creation in the Jewish religious calendar is 3761 BC, which is in the middle of the transitional period.

The famous Mahabharata War of the Indian subcontinent, which took place during the transitional period between Yugas, 35 years prior to the beginning of the Kali Yuga, can now be dated to 3711 BC. The *Mahabharata* mentions that the Dwapara Yuga ended and the Kali Yuga started as soon as Krishna left this world; and then the seas swelled up and submerged the island-city of Dwarka, which was located off the coast of western India. In 2002, the National Institute of Ocean Technology (NIO), India, discovered two cities submerged in the Gulf of Cambay, at a depth of 120 feet. These mysterious submerged cities were laid out in a grid, had towering walls, massive geometrical buildings and huge engineering works such as dams, and they stood entirely above water around 7,000 years ago. Nearly 2,000 man-made artifacts were recovered from the sites, some of which have been carbon dated to 6500 BC – 7500 BC, indicating their existence in the Dwapara Yuga.



A long wall between buoys A12 and S12. DWK.

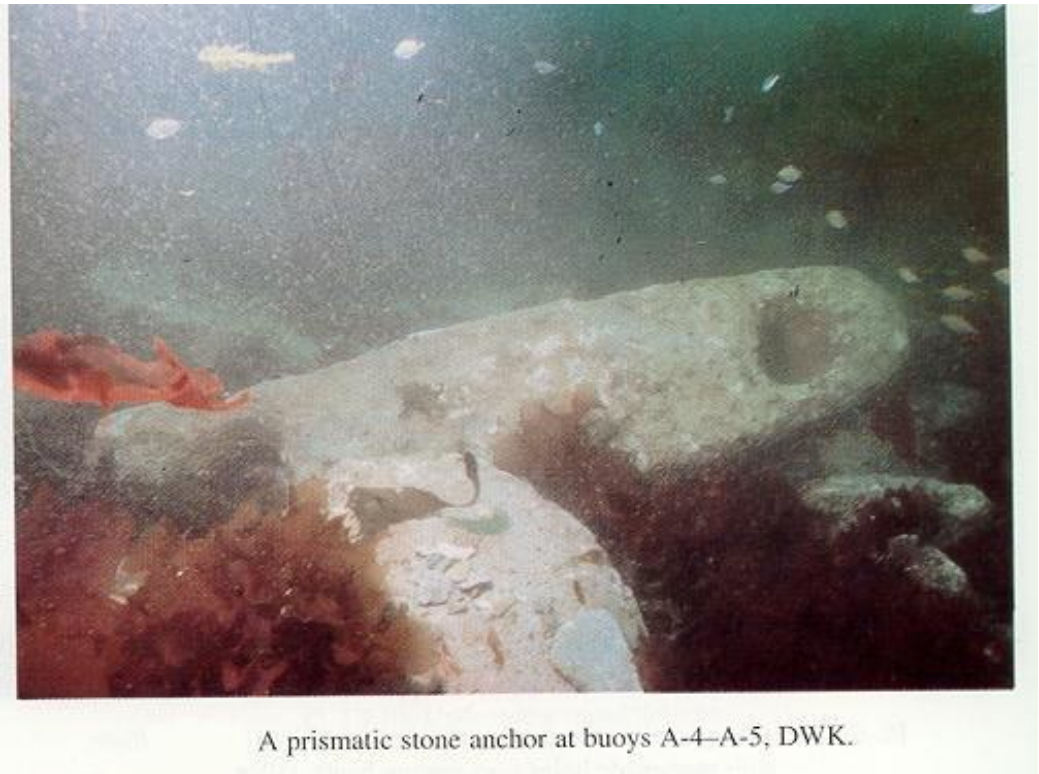


Fig 6: The underwater ruins of the fabled city of Dwarka, off the coast of western India, at a depth of 170 feet below the Arabian Sea.
***Source:** The Lost City of Dvaraka – By S.R. Rao*

As per the ancient traditions, the descending Kali Yuga, which was referred to by Hesiod as the "Age of Heroes", came to an end with the battle fought on the plains of Troy. The Yuga Cycle timeline indicates that the 300 year intervening period between the descending and ascending Kali Yuga extended from 976 BC – 676 BC; and very interestingly, this overlaps with the 300 year period from 1100 BC to 800 BC which is referred to by historians as the *Greek Dark Ages*! The archaeological evidence shows that tremendous destruction visited the Greek isles at this time. The great Mycenaean cities and palaces collapsed. Villages and towns were burnt, destroyed and abandoned. The population of the cities reduced drastically, there was widespread famine and people lived in isolated, small settlements. Such was the magnitude of the cataclysms that ancient Greeks entirely forgot the art of writing which they had to re-learn from the Phoenicians in the 8th century! The ancient trade networks were disrupted and came to a grinding halt.

However, this was not just a collapse of the ancient Greek civilization; there was a worldwide collapse of civilizations during this period. The Hittites suffered serious disruption and cities from Troy to Gaza were destroyed. Egypt too lost control over its kingdom. The period from 1070 BC – 664 BC is known as the "Third Intermediate

Period" of Egypt, during which time Egypt was run over and ruled by foreign rulers, and there was political and social disintegration and chaos. Egypt was increasingly beset by a series of droughts, below-normal flooding of the Nile, and famine. In India, the Indus Valley civilization finally ended at around 1000 BC. Catastrophe also struck the ancient Olmec civilization of Mesoamerica at this time. The first Olmec center, San Lorenzo, was abandoned at around 900 BC. A wholesale destruction of many San Lorenzo monuments also occurred in c.950 BC, and scholars believe that drastic environmental changes may have been responsible for this shift in Olmec centers, with certain important rivers changing course.

Once again we don't know what may have triggered this calamitous turn of events across the world. Historians speculate about a combination of catastrophic climatic events. Egyptian accounts tell us that, "something in the air prevented much sunlight from reaching the ground and also arrested global tree growth for almost two full decades until 1140 BC."[29] One proposed cause is the Hekla 3 eruption of the Hekla volcano in Iceland, but the dating of that event remains in dispute. However, since the descending and ascending Kali Yuga are not so different in terms of their qualitative aspects, the level of devastation during this transitional period was perhaps not as severe as the previous one, as a result of which some aspects of civilization survived.

When the ascending Kali Yuga began in 676 BC, much of the knowledge, traditions and skills from the descending Kali Yuga were lost. In Greece, the construction of monumental architecture ceased. The cavalry was replaced by foot soldiers. Pottery styles were simplified. In India, the use of Sanskrit as the means of communication was replaced by the language of the common masses – Pali and Prakrit. Knowledge of the ancient scriptures, sciences and arts had been all but forgotten. Possibly in response to this grave social crisis, a number of philosophers and prophets appeared at this time, trying to re-discover the lost wisdom, and spread it amongst the ignorant masses. Among them were Buddha (623 BC), Pythagoras (570 BC), Zoroaster (600 BC), and Mahavir Jain (599 BC).

People were so perturbed by the calamities of the previous centuries that they began a vigorous attempt to finally document the ancient scriptures, which were till then being transmitted in a purely oral fashion. It was in this grave social and cultural milieu that the Mayans re-calculated and re-calibrated their calendric system at Izapa sometime after 400 BC. And a few centuries later Aryabhatta and others attempted to fix the beginnings of the Kali Yuga. Such an effort would have been quite un-

necessary if the cataclysms of the previous centuries had not disrupted the flow of the rich oral traditions. However, much of the knowledge from the previous epoch was irretrievably lost. For instance, the original Vedas were comprised of 1,180 sakhas (i.e. branches), of which only 7 or 8 sakhas (less than 1 %) are remembered now. As a result, it is only natural to expect that even within the texts that were finally documented, various errors and omissions had crept in. The mistakes in the Yuga Cycle doctrine were some of them.

The Yuga Cycle timelines proposed here accurately mirrors the worldwide environmental catastrophes that accompanies the transitional periods between Yugas. The four key transitional periods, since the end of the Golden Age, have been summarized here:

Transitional Period	Major Characteristics
9976 BC – 9676 BC	The end of the last Ice Age; catastrophic global flood of 9703 BC, possibly triggered by a cometary impact.
6976 BC – 6676 BC	The Black Sea Catastrophe of 6700 BC; Laurentide ice-sheet disintegration; enormous earthquakes and glacial outburst flooding all over the world.
3976 BC – 3676 BC	The 5.9 kiloyear event of 3900 BC; intense aridity in the Sahara; the Flandrian transgression resulting in widespread flooding in Asia.
976 BC – 676 BC	The environmental catastrophes and civilizational collapse during the Greek Dark Ages from 1100 BC to 800 BC.

Fig 7: The Transitional Periods between Yugas

This recurrent pattern of devastation is clearly discernible in the archaeological records. Every 2,700 years our planet is impacted by a series of cataclysmic events for a period of a few hundred years, which brings about a total or near total collapse of civilizations across the world. In all the cases, however, we find that civilization restarts immediately after the period of destruction.

In recent years, many independent historians and researchers have realized that the concept of a Yuga Cycle is a far better descriptor of ancient history, than the model of linear progress favored by mainstream historians. Egyptologist John Anthony West, whose seminal work on the dating of the Sphinx has won him worldwide acclaim, mentions in his article "*Consider the Kali Yuga*" that:

> "Since Egypt's Old Kingdom, up until very recently...civilization has been going down, not up; simple as that. We can follow that degenerative process physically in Egypt; it is written into the stones and it is unmistakable. The same tale is told in the mythologies and legends of virtually all other societies and civilizations the world over...Progress does not go in a straight line from primitive ancestors to smart old us with our bobblehead dolls and weapons of mass destruction; our traffic jams and our polluted seas, skies and lands. There is another, and far more realistic, way to view history. Plato talked about a cycle of Ages: Golden, Silver, Bronze and Iron (or Dark) Age; a cycle, a wave form – not a straight line. A similar understanding is reflected by virtually all other ancient accounts. The best known, and by far the most elaborately developed of these systems, is the Hindu, with its Yuga Cycle, which corresponds to the Platonic idea of four definable Ages."[30]

It is evident that the original Yuga Cycle was based on the Saptarsi Calendar. It was of 12,000 years duration, comprised of four Yugas of equal duration of 2,700 years each, separated by transitional periods of 300 years. The complete Yuga Cycle of 24,000 years was comprised of an ascending and descending Yuga cycle, which followed each other for eternity like the cycles of day and night. For the past 2,700 years we have been evolving through the ascending Kali Yuga, and this Yuga is coming to an end in 2025. The end of the Yuga will inevitably be followed by cataclysmic earth changes and civilization collapses, as is characteristic of the transitional periods. The Dwapara Yuga is fundamentally different from the Kali in its spiritual and material dimensions, as can be gleaned from the ancient texts. Hence, we may anticipate far-reaching changes in our environment, and possibly in our cosmic neighborhood, as we transition to this period of enhanced consciousness. The current upswing in tectonic activities and the increased incidence of extreme weather phenomena may be indicative of the fact that we are slowly entering into a period of volatile earth changes. We need to be aware of these greater cycles of time that govern human civilization, and the changes that are looming in the horizon.

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